MAVEN
Helps You with Project Dashboard

It doesn't matter whether you are a manager or a software programmer—delivering high quality software is always a challenging task. Identifying the right set of metrics and tracking them is one of the key steps towards achieving high quality. A one-stop location, where you can access the complete details of your project on the quality front, would be handy. In this article we will show you how to create a simple project dashboard for the Java Email Client program included in the LFY CD bundled with the February 2005 issue, using one of the freely available project management tools—Maven.

Maven is a Java project management and project comprehension tool from Apache. Of the innumerable features offered by Maven, we will use only the site generation feature for our project dashboard. You can get the complete list of features offered by Maven from [http://maven.apache.org/features.html]. The latest version of Maven can be had from the LFY CD. It is known to work on many platforms including Linux.

We will design our project dashboard to contain the code review report from one of the most widely used automated code review

tools for Java—PMD.

PMD scans Java source code and looks for potential problems like:

- Empty try/catch/finally/switch blocks.
- Unused local variables, parameters and private methods.
- Empty if/while statements.
- Overcomplicated expressions—unnecessary 'if' statements, for loops that could be 'while' loops.
- Classes with high cyclomatic complexity measurements.

You can get the complete list of checks that PMD can do from [http://pmd.sourceforge.net/]. PMD is available as a plug-in for Maven.

To create the project dashboard using Maven, the first thing that you need to do is to create the *project.xml* as shown in Figure 1.

project.xml is an XML file that describes the project to Maven. The elements, like name, currentVersion, inceptionYear, description, organisation and developers, describe the general information about the project. The *sourceDirectory* describes the location of the source files. The reports section lists the type of reports that will be created by Maven. In our case, it is PMD. Maven JXR plug-in is the source code cross-reference plug-in. It is required for the PMD to work properly. Once you are done with the *project.xml* file, the next step is to run Maven with a site:generate goal like this...

```
maven site:generate
```

References

Maven:	http://maven.apache.org/
PMD:	http://pmd.sourceforge.net/
CheckStyle:	http://checkstyle.sourceforge.net/

Create a dashboard for the Java Email Client using a project management tool called Maven.
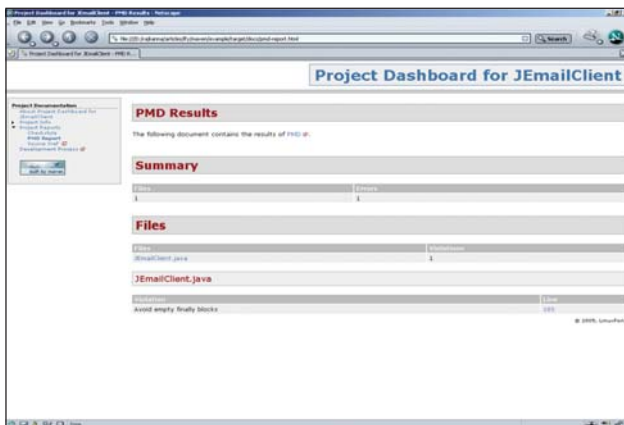
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Figure 1: project.xml

Figure 2: Project Dashboard for JEmailClient

If Maven executes successfully, then you can see the Project Dashboard (Figure 2) created under the target\docs directory. The *index.html* is the index file.

The PMD report shows that there is only one criticism for the JEmailClient program. It has detected an empty 'finally' block at line 185 in the JEmailClient program. When you click on the line number, you will be automatically redirected to the source code as shown
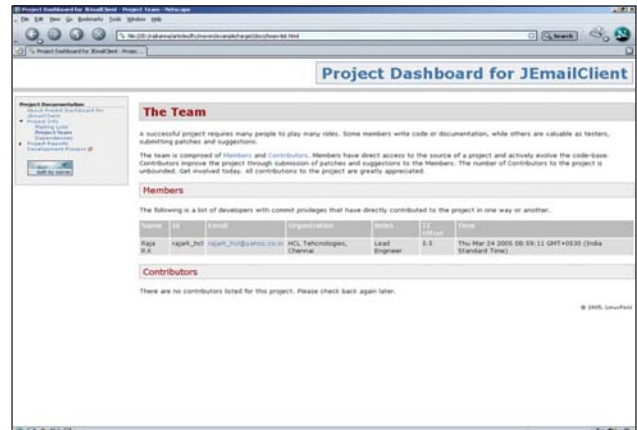

Figure 3: The PMD report created by Maven

Figure 4: PMD report for the JEmailClient

in Figure 3.

From Figure 4 we can see that there is an empty 'finally' block at line 185, which is not required. The PMD report will help you to make the code cleaner and understandable.

Similarly, like PMD, you can create other useful reports based on your project requirement. See [http://maven.apache.org/reference/plugins/index.html] to learn about the list of possible reports that can be created.

Maven will help you to generate and view all the reports at one place, thereby helping you to get a clearer picture of the quality of your project. **LFY**

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References

- Unicode Consortium: www.unicode.org
- http://tbray.org/ongoing/When/200x/2003/04/06/Unicode
- Jukka Korpela: http://www.cs.tut.fi/~jkorpela/chars.html
- Gettext: www.gnu.org/software/gettext/
- SquirrelMail: www.squirrelmail.org
- PEAR Internationalization Packages: http://pear.php.net/ packages.php?catpid=28&catname=Internationalization
- MySQL 4.1 and Unicode: http://dev.mysql.com/tech-resources/articles/4.1/ unicode.html

Once you have created the table, you can tell MySQL to handle data as UTF-8, using either the *SET NAMES 'utf8',* query or the *_utf8"* function. You can refer to the MySQL manual for more on this.

Implementation of I18N in popular PHP software

Most of the popular open source PHP software has support for multiple languages. Systems like Drupal and SquirrelMail use the gettext method of PO files. SquirrelMail actually has a fallback system if you don't have gettext support in your PHP. PhpMyAdmin unfortunately has an outdated system of storing all the strings in text files with unique names for each string. B2Evolution, Tutos, TikiWiki—all have multilingual support. **LFY**

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